Operations sustainability maturity model: A proposed framework for English-speaking Caribbean firms

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Agenda

- The Introduction
- Motivation of the Study
- Research Question
- Contribution of the Study
- Literature Review
- Methodology
- Findings & Discussion
- Conclusion, Limitation & Future Research

Introduction

- There is increased awareness and focus on organisational sustainability
- However, few corporations have successfully institutionalised ongoing sustainability
- To-date, the focus of attention has been extensively on developed countries
- This is concerning as arguably, it is developing countries that need to be the most ardent in their pursuit of sustainable operations (Gray et al., 2014)
- The objective of this research is to measure operations sustainability across developed and developing countries using a maturity model assessment tool

Motivation

- Relatively few organisations have pursued sustainability for their operational systems (Vogel, 2005)
- There is a need for "more clarity on how corporations must change to meet the sustainability challenge, and how the necessary changes may be achieved" (Millar et al. 2012)
- There is little attention given to the recognition of sustainable operations in developing countries (Bos-Brouwers, 2010), such as those in the English-speaking Caribbean
- There is little understanding of what *type* of organisations fair better; nor do we know how developing countries compare with developed countries

Research Question

Do financial services firms in developed countries outperform those in developing countries, specifically the English-speaking Caribbean (ESC), in pursuit of sustainable operations?

Contribution of the study

- To provide insights to corporate executives in the Financial Sector in their pursuit to develop and maintain sustainable operations
- Assist with informed decision making by executives in the Financial Services sector

Definition

- *Operational Sustainability*
  - *"A state of operational maintenance and viability; that demonstrates the inclusion of a corporation's economic, social, and environmental performance which then reflects the value created from the optimal use of resources, the responsibility upheld towards the community's well-being, and the conservation efforts from responsible decision making."*

Literature Review

- For most developed countries, 70% of GDP is derived from services, 25% industrial, with the remaining 5% from agriculture (IMF, 2015)
- Jamaica's GDP, ranked 117 from 188 countries, comprise 65% from services, 30% industrial and 5% agriculture
- A somewhat similar profile to developed countries
- Services are a dominant source of wealth creation in most countries
- Hence, services require a greater research focus with respect to sustainability

Literature Review

- A more cohesive view of sustainability at the organisational level is critical, especially in the English-speaking Caribbean (ESC) who strives to mitigate many of the vulnerabilities associated with organisations in a small island developing states (SIDS) context
- The vulnerabilities include fragile markets, natural and man-made disasters, low human resources and lack of diversification (Shirley, 2009)
- Sustainability can play a key role in the economic growth and development of developing countries (de Noronha & Nijkamp, 2009)
- But sustainability in the ESC is mainly on climate change and disaster risk resilience (Minto-Coy and Rao-Graham, 2016)
- The concept should be viewed mainly through the lens of corporate social responsibility with the emphasis on the environment and philanthropy (Surendra and Ron, 2010)
- As a result, **5 domains** are incorporated into the sustainability questionnaire namely, corporate, economic, societal, human and natural capitals (shown later in Figure 1)

Benefits of Sustainability

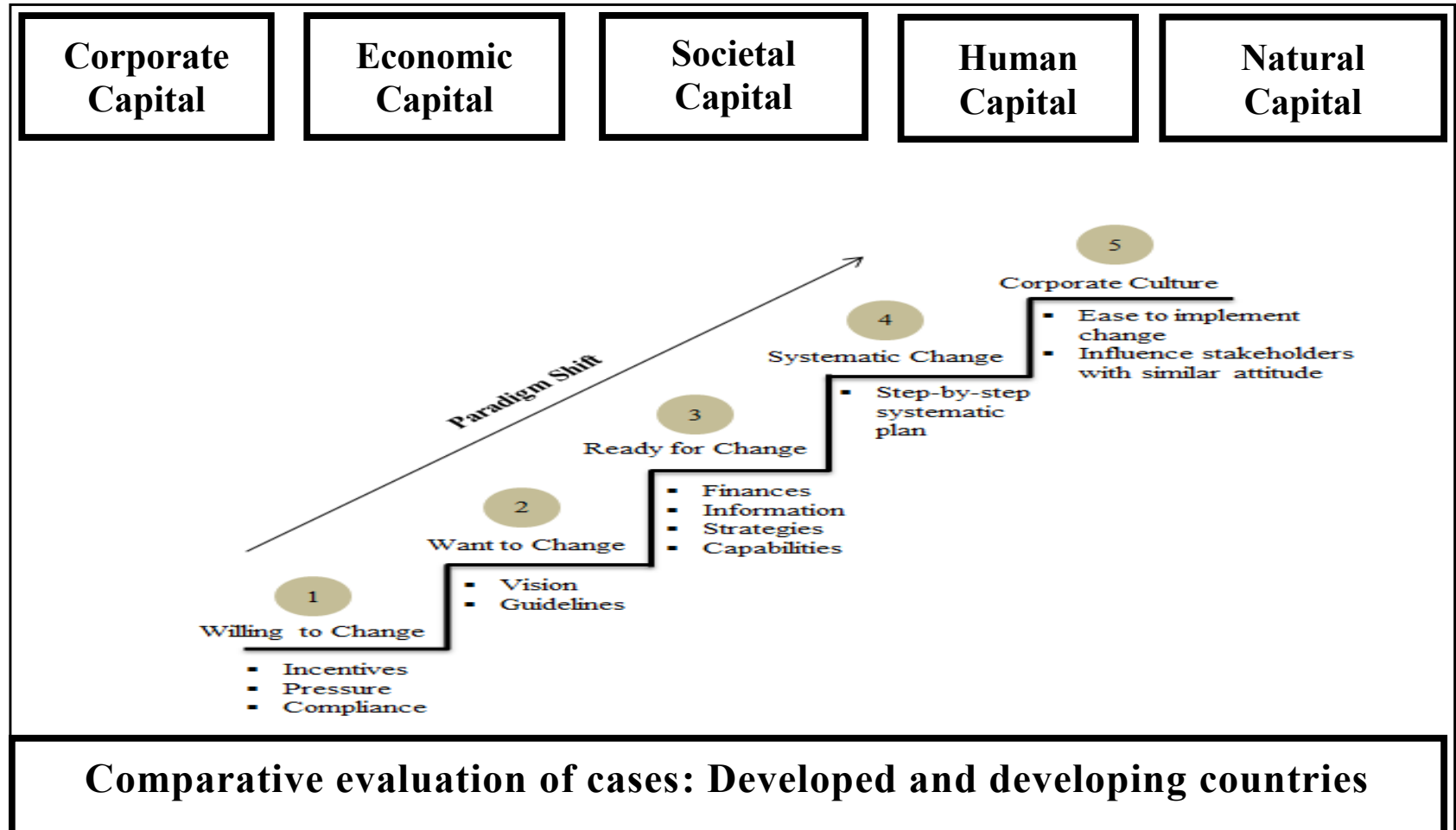- Cost savings; New sources of revenue
- Improved brand image
- Employees' satisfaction, morale and retention
- Product, service and market innovation
- Business process and model innovation
- Effective risk management
- Enhanced stakeholder relations
- Increase demand for products and services
- Attract more socially responsible consumers
- Reduce prices

Source: Berns et al., 2009; Hillman & Keim, 2001

Literature Review

- Translating concepts of sustainability into practical actions remains challenging for many organisations (Lee and Saen, 2012).

- Advocates of sustainability (Epstein & Buhovac, 2010; Nguyen & Slater, 2010) emphasise the need for organisations to:
  - Set measurable goals
  - Adopt robust assessment tools to evaluate their improvement initiatives
  - Monitor their sustainability performance

- For effective sustainability, a 5-stage maturity level approach is recommended

Figure 1: Schematic Overview of the Research

| Corporate Capital | Economic Capital | Societal Capital | Human Capital | Natural Capital |

Paradigm Shift

1 Willing to Change
- Incentives
- Pressure
- Compliance

2 Want to Change
- Vision
- Guidelines

3 Ready for Change
- Finances
- Information
- Strategies
- Capabilities

4 Systematic Change
- Step-by-step systematic plan

5 Corporate Culture
- Ease to implement change
- Influence stakeholders with similar attitude

Comparative evaluation of cases: Developed and developing countries

Assessment Method

- Latent constructs that incorporates the 5 domains:
  - Corporate factors; Economic considerations
  - Societal aspects; Human dimensions
  - Natural capital
- Each construct can be numerically assessed against a scale of 1 to 5 to indicate relative progression towards to an optimum maturity
- Compute an aggregated metric indicating an overall **sustainability maturity index (SMI)** for targeted firm

Figure 2: Conceptual Framework – Comparative Sustainability Financial Services Operations

Corporate | Economic | Societal | Human | Natural

Corporate maintenance and viability

Value creating strategies & learning

H_1

H_2

H_4

Intra/entrepreneurship

H_3

Environmental impact reduction decision making

H_5

Conservation efforts

Comparative Sustainable Operations: Developing/Developed Countries
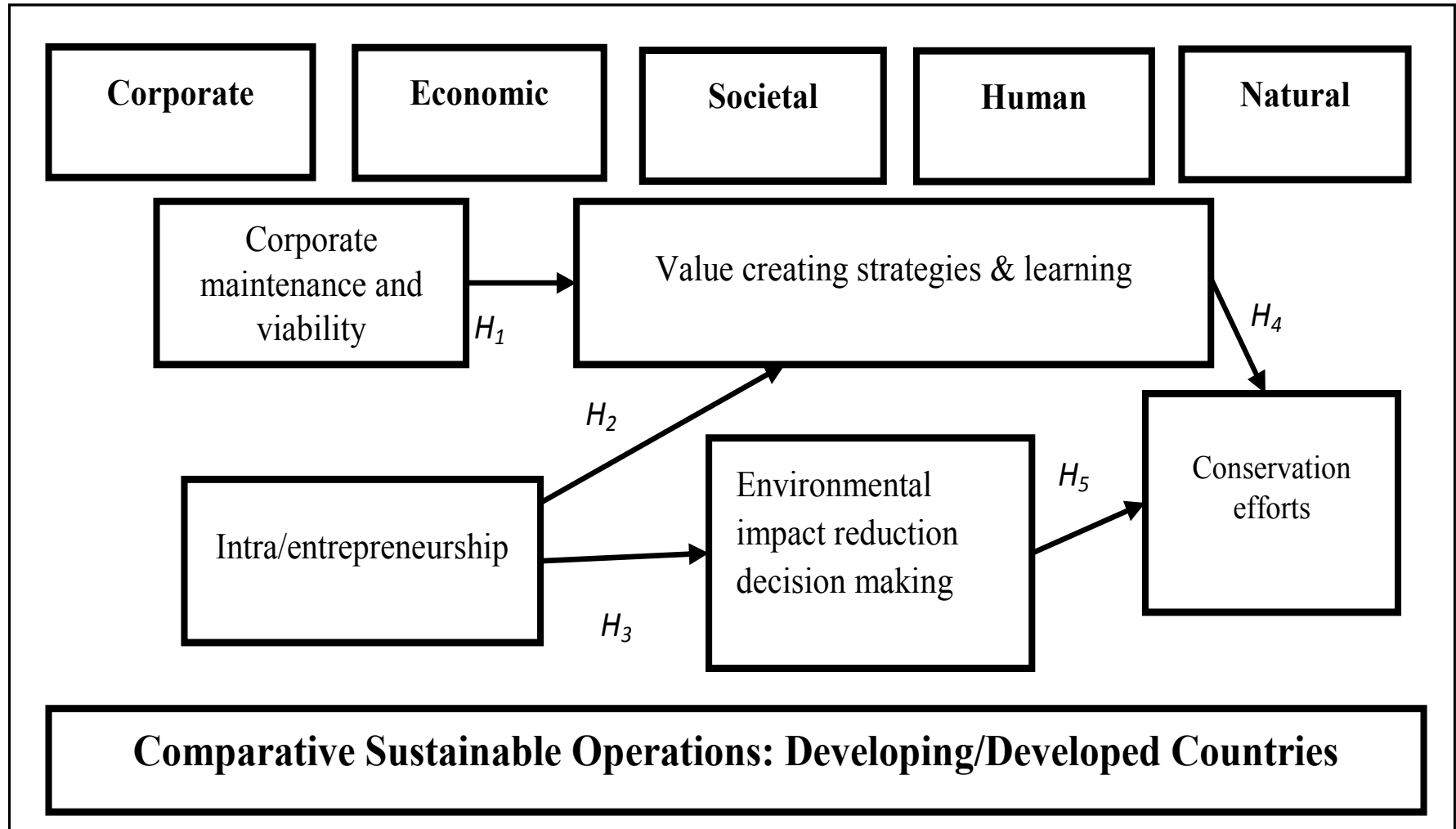
Hypotheses [5]

- H_1: Developed countries' corporate sustainability has a higher maturity index
- H_2: Developed countries' economic capital has a higher maturity index
- H_3: Developed countries' societal capital has a higher maturity index
- H_4: Developed countries' human capital has a higher maturity index
- H_5: Developed countries' natural capital has a higher maturity index

Methodology

- The study applied a previously developed operations sustainability assessment instrument (Loh and Parker, 2016) that measures sustainability intent and progress along a maturity trajectory
- Initial sustainability questionnaire = 121 items
- Final sustainability questionnaire = 95 items
- The 5 numerical response categories:
  - 5 = Embedded in culture
  - 4 = Systematic change
  - 3 = Ready for change
  - 2 = Want to change
  - 1 = Willing to change

Methodology

- A 2-stage expert-panel review was conducted to maximise face and content validity of the items
- Initial list of 121 items was reduced to 95
  - Corporate sustainability = 34 items
  - Economic capital = 19 items
  - Societal capital = 12 items
  - Human capital = 22 items
  - Natural capital = 8 items
- 0

Methodology

- Panel discussion with executives and managers of targeted organizations was conducted in the study
- Q-sort study was conducted to examine the relevance of each item to its respective domain
- Alignment and mapping of hypotheses to the 95 items was conducted
- This study focused only on companies within the Standard Industrial Classification (SIC) Codes range 6000-6799 – Finance, Insurance and Real Estate
- Comprising 11 organisations in Australia, UK and Jamaica [9 developed & 2 developing country]

Table 1: Financial Services Company Profiles

Company ID Code	Region Centre	Employees	Operating Income 2014 AU$Million	Net Margin %	EBT %	Return on Assets %	Return on Equity %
2013-003-FS-bnk	Australia	41849	7955	23.3	33.37	0.67	12.87
2013-004-FS-bnk	UK	24600	2443	23.8	35.41	0.52	11.66
2013-007-FS-bnk	UK	264000	29706	22.6	25.04	0.52	7.35
2014-009-FS-ins	Australia	963	220	11.7	17.28	8.97	12.79
2014-010-FS-inVman	Australia	1200	443	32.21	35.03	9.58	18.92
2015-015-FS-divF	Australia	503	350	7.86	43.04	2.11	4.99
2015-19-FS-ins	Australia	1600	173	20.5	34.63	6.44	15.45
2015-20-FS-hs	Australia	47	38	20.06	29.73	3.95	3.97
2016-001-FS-AssManP	Australia	54	16	26	23	9.45	15.75
2016-002-FS-bnk	Jamaica	2600	524	20	26.78	2.4	14.45
2016-007-FS-bs	Jamaica	1600	32	21.67	20.48	1.51	2.76

Qualitative Information

- A rich array of qualitative information was recorded for each organisation
- For example, one company director stated: "This research has really made us think about sustainability and how we are not really building day to day systems to address it. And really, it is just excellent business strategy."

Statistical Analysis

- The highest rank in Net Margin %, Return on Assets % and Return on Equity %, had a corresponding SMI rank of 7, 7, and 7 respectively
- Hence, it could be argued that a high SMI does not necessarily result in better financial performance.

Table 2: Summary of the Total Data

ID No.	Company ID	Employees	Rank	Operating	Rank	Net Margin	Rank	EBT %	Rank	Return on	Rank	Return on	Rank	TOTAL CO	Rank	TOTAL EC(	Rank	TOTAL	Rank	TOTAL H	Rank	TOTAL NA	Rank	MATURITY	Rank
1	FS-bnk	41849	2	7955	2	23.30	4	33.37	5	0.67	9	12.87	5	156	3	77	4	55	4	98	4	38	1	326	3
2	FS-bnk	24600	3	2443	3	23.80	3	35.41	2	0.52	10	11.66	7	159	1	90	3	57	2	103	2	36	2	342	1
3	FS-bnk	264000	1	29706	1	22.60	5	25.04	8	0.52	10	7.35	8	113	6	72	6	41	5	73	6	26	5	252	5
4	FS-ins	963	8	220	7	11.70	10	17.28	11	8.97	3	12.79	6	74	8	54	8	23	8	54	9	14	8	165	8
5	FS-inVman	1200	7	443	5	32.21	1	35.03	3	9.58	1	18.92	1	94	7	57	7	28	7	69	7	20	7	199	7
6	FS-divF	503	9	350	6	7.86	11	43.04	1	2.11	7	4.99	9	72	9	54	8	21	9	68	8	13	9	160	9
3	FS-ins	1600	5	173	8	20.50	7	34.63	4	6.44	4	15.45	3	120	5	73	5	37	6	80	5	22	6	252	5
8	FS-hs	47	11	38	9	20.06	8	29.73	6	3.95	5	3.97	10	48	10	32	10	15	11	49	10	8	11	103	11
9	FS-AssManP	54	10	16	11	26.00	2	23.00	9	9.45	2	15.75	2	46	11	32	10	17	10	46	11	11	10	106	10
10	DEV-FS-bnk	2600	4	524	4	20.00	9	26.78	7	2.40	6	14.45	4	159	1	92	1	56	3	104	1	35	3	342	1
11	DEV-FS-bs	1600	5	32	10	21.67	6	20.48	10	1.51	8	2.76	11	150	4	91	2	58	1	103	2	27	4	326	3

Statistical Analysis cont'd
[Sustainability Maturity Index (SMI)]

- 2 organisations tied 1st for the highest SMI, one from developed countries and the other from developing countries (Jamaica)
- Based on the literature, it is expected that a high SMI would have had associated high rankings in Natural Capital (Linnenluecke and Griffiths 2010)
- But the 2 top ranked SMI firms were ranked 2 & 3 in terms of Natural Capital
- There is no consistency in the ranks for the five domains measured for the 11 organisations

ID No.	Total Corporate	Rank	Total Economic	Rank	Total Societal	Rank	Total Human	Rank	Total Natural	Rank	SMI TOTAL	Rank
1	156	3	77	4	55	4	98	4	38	1	326	3
2	159	1	90	3	57	2	103	2	36	2	342	1
3	113	6	72	6	41	5	73	6	26	5	252	5
4	74	8	54	8	23	8	54	9	14	8	165	8
5	94	7	57	7	28	7	69	7	20	7	199	7
6	72	9	54	8	21	9	68	8	13	9	160	9
3	120	5	73	5	37	6	80	5	22	6	252	5
8	48	10	32	10	15	11	49	10	8	11	103	11
9	46	11	32	10	17	10	46	11	11	10	106	10
10	159	1	92	1	56	3	104	1	35	3	342	1
11	150	4	91	2	58	1	103	2	27	4	326	3

Statistical Analysis cont'd

- The 1st measure in Table 5 is the correlation coefficient
- Correlation coefficients range between -1 and +1 and measure the strength of the linear relationship between the variables
- The 2nd measure in parentheses is the number of pairs of data values used to compute each coefficient. For this study = 11 firms
- The 3rd measure is the P-value which tests the statistical significance of the estimated correlations
- P-values below 0.05 indicate statistically significant at the 95% confidence level
- For example, variable Return on Assets % has a P-value of 0.0404 with Total Corporate, 0.0450 with Total Economic, 0.0266 with Total Societal, 0.0239 with Total Human and 0.0427 with Total Natural

Table 5: Correlations of Variables

	Net margin %	EBT %	Return on Assets %	TOTAL CORPORATE	TOTAL ECONOMIC	TOTAL SOCIETAL	TOTAL HUMAN	TOTAL NATURAL
Net margin %		-0.0451	0.1824	0.2115	0.0837	0.2304	0.1491	0.2916
		(11)	(11)	(11)	(11)	(11)	(11)	(11)
		0.8953	0.5913	0.5325	0.8068	0.4956	0.6616	0.3842
EBT %	-0.0451		-0.2424	0.0733	0.0267	-0.0313	0.1578	0.0983
	(11)		(11)	(11)	(11)	(11)	(11)	(11)
	0.8953		0.4727	0.8304	0.9379	0.9271	0.6430	0.7737
Return on Assets %	0.1824	-0.2424		-0.6234	-0.6128	-0.6615	-0.6706	-0.6181
	(11)	(11)		(11)	(11)	(11)	(11)	(11)
	0.5913	0.4727		0.0404	0.0450	0.0266	0.0239	0.0427
TOTAL CORPORATE	0.2115	0.0733	-0.6234		0.9700	0.9856	0.9788	0.9653
	(11)	(11)	(11)		(11)	(11)	(11)	(11)
	0.5325	0.8304	0.0404		0.0000	0.0000	0.0000	0.0000
TOTAL ECONOMIC	0.0837	0.0267	-0.6128	0.9700			0.9593	0.8964
	(11)	(11)	(11)	(11)		(11)	(11)	(11)
	0.8068	0.9379	0.0450	0.0000		0.0000	0.0000	0.0002
TOTAL SOCIETAL	0.2304	-0.0313	-0.6615	0.9856	0.9563		0.9691	0.9534
	(11)	(11)	(11)	(11)	(11)		(11)	(11)
	0.4956	0.9271	0.0266	0.0000	0.0000		0.0000	0.0000
TOTAL HUMAN	0.1491	0.1578	-0.6706	0.9788	0.9593	0.9691		0.9230
	(11)	(11)	(11)	(11)	(11)	(11)		(11)
	0.6616	0.6430	0.0239	0.0000	0.0000	0.0000		0.0001
TOTAL NATURAL	0.2916	0.0983	-0.6181	0.9653	0.8964	0.9534	0.9230	
	(11)	(11)	(11)	(11)	(11)	(11)	(11)	
	0.3842	0.7737	0.0427	0.0000	0.0002	0.0000	0.0001	

Statistical Analysis cont'd

- Table 6 shows the correlations between each pair of key variables
- The following pairs of variables have P-values below 0.05 (showing significance):
  - Total Corporate and Total Economic, Total Societal, Total Human and Total Natural.
  - Total Economic with Total Societal, Total Human and Total Natural
  - Total Societal with Total Human and Total Natural
  - Total Human and Total Natural.

Table 6: Correlations Between Key Variables

	TOTAL CORPORATE	TOTAL ECONOMIC	TOTAL SOCIETAL	TOTAL HUMAN	TOTAL NATURAL
TOTAL CORPORATE		0.9700	0.9856	0.9788	0.9653
		(11)	(11)	(11)	(11)
		0.0000	0.0000	0.0000	0.0000
TOTAL ECONOMIC	0.9700		0.9563	0.9593	0.8964
	(11)		(11)	(11)	(11)
	0.0000		0.0000	0.0000	0.0002
TOTAL SOCIETAL	0.9856	0.9563		0.9691	0.9534
	(11)	(11)		(11)	(11)
	0.0000	0.0000		0.0000	0.0000
TOTAL HUMAN	0.9788	0.9593	0.9691		0.9230
	(11)	(11)	(11)		(11)
	0.0000	0.0000	0.0000		0.0001
TOTAL NATURAL	0.9653	0.8964	0.9534	0.9230	
	(11)	(11)	(11)	(11)	
	0.0000	0.0002	0.0000	0.0001	

Statistical Analysis cont'd

- It is generally argued that a strategy driving environmental awareness will bring financial benefits in the form of improved Return on Assets (Linnenluecke and Griffiths 2010)
- This notion is supported in this study as shown in Table 7 where the P-value is below 0.05, indicating statistically significant at the 95% confidence level.

Table 7: Correlation of Total Return on Assets % and Total Natural
[Correlation; (Sample Size); P-Value]

	Return on Assets %	TOTAL NATURAL
Return on Assets %		-0.6181
		(11)
		0.0427
TOTAL NATURAL	-0.6181	
	(11)	
	0.0427	

Testing of Hypotheses

- The overall purpose of this study was to answer the following question: *Do financial services in developed countries outperform those in developing countries, specifically ESC, in pursuit of sustainable operations?*
- The result = No
- Table 10 separates Developing countries with Developed countries, showing no significant P-value for each variable being studied

Table 10: Testing of Hypotheses - Developing with Developed countries P-Values

	1 Developing 2 Developed	TOTAL CORPORATE	TOTAL ECONOMIC	TOTAL SOCIETAL	TOTAL HUMAN	TOTAL NATURAL
1 Developing 2 Developed		-0.5172	-0.5818	-0.5722	-0.5879	-0.3861
		(11)	(11)	(11)	(11)	(11)
		0.1033	0.0605	0.0658	0.0571	0.2408
TOTAL CORPORATE	-0.5172		0.9700	0.9856	0.9788	0.9653
	(11)		(11)	(11)	(11)	(11)
	0.1033		0.0000	0.0000	0.0000	0.0000
TOTAL ECONOMIC	-0.5818	0.9700		0.9563	0.9593	0.8964
	(11)	(11)		(11)	(11)	(11)
	0.0605	0.0000		0.0000	0.0000	0.0002
TOTAL SOCIETAL	-0.5722	0.9856	0.9563		0.9691	0.9534
	(11)	(11)	(11)		(11)	(11)
	0.0658	0.0000	0.0000		0.0000	0.0000
TOTAL HUMAN	-0.5879	0.9788	0.9593	0.9691		0.9230
	(11)	(11)	(11)	(11)		(11)
	0.0571	0.0000	0.0000	0.0000		0.0001
TOTAL NATURAL	-0.3861	0.9653	0.8964	0.9534	0.9230	
	(11)	(11)	(11)	(11)	(11)	
	0.2408	0.0000	0.0002	0.0000	0.0001	

Hypotheses Testing Results

Hypothesis	Description	Finding	Remarks
H1	*Developed countries' corporate sustainability has a higher maturity index*	The average index for developed countries was 98.0 (SD 42.22) and average index for developing countries (Jamaica) 154.5 (SD 6.36)	Not supported
H2	*Developed countries' economic capital has a higher maturity index*	The average index for developed countries was 60.11 (SD 19.845) and average index for developing countries (Jamaica) 91.5 (SD 0.707)	Not supported
H3	*Developed countries' societal capital has a higher maturity index*	The average index for developed countries was 32.66 (SD 15.76) and average index for developing countries (Jamaica) 57.0 (SD 1.41)	Not supported
H4	*Developed countries' human capital has a higher maturity index*	The average index for developed countries was 71.11 (SD 20.15) and average index for developing countries (Jamaica) 103.5 (SD 0.707)	Not supported
H5	*Developed countries' natural capital has a higher maturity index*	The average index for developed countries was 20.88 (SD 10.74) and average index for developing countries (Jamaica) 31.0 (SD 5.656)	Not supported

Conclusion, Limitation & Further Opportunities

- The findings indicate that there is no significant difference in sustainability maturity index between countries
- It was expected that organisations pursuing an environmentally considerate strategy (a high score in 'natural aspects') would accrue financial benefits, particularly in their overall operating income net margin percentage and, especially, return on assets percentage. But this was not apparent
- The five sustainability elements of sustainability: corporate, economic, societal, human and natural, showed strong correlation in all countries
- The small data set used to do the analysis is a limitation
- In view of the importance of services to economies, additional effort should be made to attract more organisations in the sample

Questions?

Thank You!

Definitions

- Corporate Sustainability

  - *"Activities that demonstrate the inclusion of economic, social and environmental considerations in the normal business operations and in its interaction with stakeholders."*

- Economic Capital

  - *"Economic capital is an illustration of the organisation's efforts in instigating value-creating strategies, resource optimisation and creating value-adding activities."*

Definitions

- Societal capital
  - *"Societal capital is an accumulation of the corporation's public networks and social relations in the community in which it operates. It can be acquired through the corporation's efforts to address societal concerns and the maximising of social benefits to the community."*
- Human Capital
  - *"Human capital is an accumulation of knowledgeable, skilful, and competent individuals in the corporation. Human capital can be acquired through the corporation's efforts to encourage internal and external learning, and the building of internal loyalty."*

Definitions

- Natural Capital
  - *"Natural capital of a corporation is an illustration of its conservation efforts aimed to reduce environmental impacts and initiation of responsible decision-making to promote or maintain the well-being of the planet."*

Assessment Tools
[Limitation = Single dimensional]

- AccountAbility (AA) 1000 Standard
- International Standards Organisation (ISO) 14000 Series
- Global Reporting Initiative (GRI)
- Sustainability Reporting Guidelines
- The Dow Jones Sustainability Index (DJSI)
- The Life Cycle Assessment (LCA)
- Cost-Benefit Analysis (CBA)

Table 4: Multiple-variable Analysis

	Net margin %	EBT %	Return on Assets %	TOTAL CORPORATE	TOTAL ECONOMIC	TOTAL SOCIETAL	TOTAL HUMAN	TOTAL NATURAL
Count	11	11	11	11	11	11	11	11
Average	20.8818	29.4355	4.19273	108.273	65.8182	37.0909	77.0	22.7273
Standard deviation	6.54166	7.68356	3.72464	44.193	21.8258	17.2015	22.2845	10.5933
Coeff. of variation	31.327%	26.1031%	88.8357%	40.8163%	33.1607%	46.3765%	28.9409%	46.6106%
Minimum	7.86	17.28	0.52	46.0	32.0	15.0	46.0	8.0
Maximum	32.21	43.04	9.58	159.0	92.0	58.0	104.0	38.0
Range	24.35	25.76	9.06	113.0	60.0	43.0	58.0	30.0
Stnd. skewness	-0.798727	0.081362	0.785052	-0.2055	-0.497879	0.0972831	-0.0163299	0.20177
Stnd. kurtosis	0.78026	-0.403602	-1.04643	-1.10042	-0.69059	-1.27055	-1.07499	-0.954658

Table 8: Simple Regression of Net Margin and SMI

Parameter	Least Squares Estimate	Standard Error	T Statistic	P-Value
Intercept	17.6359	5.7677	3.0577	0.0136
Slope	0.0138768	0.0230665	0.601602	0.5623

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value
Model	16.5436	1	16.5436	0.36	0.5623
Residual	411.389	9	45.7099		
Total (Corr.)	427.933	10			

Correlation Coefficient = 0.19662 R-squared = 3.86593 percent R-squared (adjusted for d.f.) = -6.81563 percent
Standard Error of Est. = 6.76091 Mean absolute error = 4.31385 Durbin-Watson statistic = 3.2052 (P=0.9851)
Lag 1 residual autocorrelation = -0.604474

Table 9: Multiple Regression Model of SMI

Parameter	Estimate	Standard Error	T Statistic	P-Value
CONSTANT	299.621	102.675	2.91815	0.0267
Net margin %	0.571425	3.33152	0.171521	0.8695
EBT %	-3.2643	2.61867	-1.24655	0.2590
Return on Assets %	-28.5483	6.80687	-4.19404	0.0057
Return on Equity %	12.5621	5.14809	2.44015	0.0505

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value
Model	65054.5	4	16263.6	4.68	0.0468
Residual	20856.4	6	3476.06		
Total (Corr.)	85910.9	10			

R-squared = 75.7232 per cent, R-squared (adjusted for d.f.) = 59.5387 per cent, Standard Error of Est. = 58.9582, Mean absolute error = 35.0022, Durbin-Watson statistic = 1.66273 (P=0.2918), Lag 1 residual autocorrelation = -0.0326081

Table 11: Summary Statistics – Developed countries only

	TOTAL CORPORATE	TOTAL ECONOMIC	TOTAL SOCIETAL	TOTAL HUMAN	TOTAL NATURAL
Count	9	9	9	9	9
Average	98.0	60.1111	32.6667	71.1111	20.8889
Standard deviation	42.2285	19.8459	15.7639	20.1522	10.7406
Coeff. of variation	43.0904%	33.0154%	48.2568%	28.339%	51.4179%
Minimum	46.0	32.0	15.0	46.0	8.0
Maximum	159.0	90.0	57.0	103.0	38.0
Range	113.0	58.0	42.0	57.0	30.0
Stnd. skewness	0.363441	-0.241123	0.716288	0.502281	0.741654
Stnd. kurtosis	-0.746582	-0.495562	-0.701156	-0.52629	-0.558201

Table 12: Correlations – Developed countries only

	TOTAL CORPORATE	TOTAL ECONOMIC	TOTAL SOCIETAL	TOTAL HUMAN	TOTAL NATURAL
TOTAL CORPORATE		0.9620	0.9862	0.9753	0.9778
		(9)	(9)	(9)	(9)
		0.0000	0.0000	0.0000	0.0000
TOTAL ECONOMIC	0.9620		0.9355	0.9382	0.9084
	(9)		(9)	(9)	(9)
	0.0000		0.0002	0.0002	0.0007
TOTAL SOCIETAL	0.9862	0.9355		0.9547	0.9913
	(9)	(9)		(9)	(9)
	0.0000	0.0002		0.0001	0.0000
TOTAL HUMAN	0.9753	0.9382	0.9547		0.9466
	(9)	(9)	(9)		(9)
	0.0000	0.0002	0.0001		0.0001
TOTAL NATURAL	0.9778	0.9084	0.9913	0.9466	
	(9)	(9)	(9)	(9)	
	0.0000	0.0007	0.0000	0.0001	

Table 13: Summary Statistics – Developing country only (Jamaica)

	TOTAL CORPORATE	TOTAL ECONOMIC	TOTAL SOCIETAL	TOTAL HUMAN	TOTAL NATURAL
Count	2	2	2	2	2
Average	154.5	91.5	57.0	103.5	31.0
Standard deviation	6.36396	0.707107	1.41421	0.707107	5.65685
Coeff. of variation	4.11907%	0.772794%	2.48108%	0.683195%	18.2479%
Minimum	150.0	91.0	56.0	103.0	27.0
Maximum	159.0	92.0	58.0	104.0	35.0
Range	9.0	1.0	2.0	1.0	8.0
Stnd. skewness					
Stnd. kurtosis					

Table 14: Correlations – Developing country only (Jamaica)

	TOTAL CORPORATE	TOTAL ECONOMIC	TOTAL SOCIETAL	TOTAL HUMAN	TOTAL NATURAL
TOTAL CORPORATE		1.0000	-1.0000	1.0000	1.0000
		(2)	(2)	(2)	(2)
		0.0000	0.0000	0.0000	0.0000
TOTAL ECONOMIC	1.0000		-1.0000	1.0000	1.0000
	(2)		(2)	(2)	(2)
	0.0000		0.0000	0.0000	0.0000
TOTAL SOCIETAL	-1.0000	-1.0000		-1.0000	-1.0000
	(2)	(2)		(2)	(2)
	0.0000	0.0000		0.0000	0.0000
TOTAL HUMAN	1.0000	1.0000	-1.0000		1.0000
	(2)	(2)	(2)		(2)
	0.0000	0.0000	0.0000		0.0000
TOTAL NATURAL	1.0000	1.0000	-1.0000	1.0000	
	(2)	(2)	(2)	(2)	
	0.0000	0.0000	0.0000	0.0000	